Attorney Docket No.: Bayer 10,227-WCG
: LEA 32751-US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s)	:	Dr. Klemens KOHLGRÜBER and Dr. Frank WEYRICH
For	:	APPARATUS FOR CARRYING OUT MASS TRANSFER PROCESS
Serial No.	:	To Be Assigned
Filed	:	Herewith
Art Unit	:	To Be Assigned
Examiner	:	To Be Assigned

November 27, 2001

BOX PATENT APPLICATION
Hon. Assistant Commissioner For Patents
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Sir:

In advance of prosecution, the Examiner is respectfully requested to amend the application as follows and consider the following remarks:

IN THE CLAIMS

Please cancel the previous versions of the following claims and replace them with the following rewritten versions. A marked up copy showing the amendment since the previous version is annexed as separate pages.

Claim 1 (amended). Apparatus for carrying out mass transfer processes with high-viscosity liquids, comprising at least one vertically disposed vessel having a feed distributor for the liquid to be treated, an outlet for volatile components and an outlet for the treated liquid, the the feed distributor having a multiplicity of orifices for subdividing the high-viscosity liquid to be treated into a multiplicity of individual streams, wherein essentially vertically arranged wire loops are disposed in the vicinity of the orifices, along which wire loops the high-viscosity liquid runs off under the action of gravity.

Claim 2 (amended). Apparatus according to Claim 1, wherein the feed distributor is a perforated plate.

Claim 3 (amended). Apparatus according to Claim 1, wherein the feed distributor element comprises at least one horizontally arranged tube which has orifices pointing downwards, upwards or both.

Claim 4 (amended). Apparatus according to Claim 1, wherein the wire loops in the vicinity of the orifices in the feed distributor are disposed detachably.

Claim 5 (amended). Apparatus according to Claim 3, wherein said orfices are slotted orifices pointing upwards.

Claim 6 (amended). Apparatus according to Claim 5, wherein the wire loops are clipped into said orifices.

Claim 7 (amended). Apparatus according to Claim 1, wherein two, three or more of the wire loops at a time are combined into a basket-like lattice or wire mesh.

Claim 8 (amended). Apparatus according to Claim 7, wherein two or more adjacent lattices or wire meshes are linked to one another.

Claim 9 (amended). Apparatus according to Claim 1, wherein the wire loops are attached to the vessel bottom.

Claim 10 (amended). Apparatus according to Claim 1, wherein the wire loops comprising heaters for the wire loops.

Claim 11 (amended). Apparatus according to Claim 1, wherein the feed distributor is formed of heat exchange tubes which are vertically arranged in the vessel, debauch into the vessel and have orifices, the wire loops being attached to the bottom ends of said heat exchange tubes.

Claim 12 (amended). Apparatus according to Claim 1, wherein the area enclosed by each individual wire loop is from 0.5 cm^2 to 2500 cm^2.

Claim 13 (amended). Apparatus according to Claim 1, wherein the wire loops taper in the direction of flow of the liquid.

Claim 14 (amended). Apparatus according to Claim 1, wherein the vessel is designed to be heatable, coolable or both.

Claim 15 (amended). Apparatus according to Claim 1, wherein the top ends of individual wire loops are disposed at different orifices.

Claim 16 (amended). Apparatus according to Claim 1,wherein one or more wire lattices essentially arranged horizontally above one another are additionally provided below the orifices.

Claim 17 (amended). A method for boiling down and devolatilizing high-viscosity liquids and for carrying out chemical reactions between liquid layer and a surrounding gas space which contains a reactive gas component, and for condensation reactions which comprises carrying out said boiling down and devolatizing, or said reactions in an apparatus according to Claim 1.

Please add the folloiwng:

--Claim 18. Apparatus according to Claim 10, wherein said heaters are electrical resistance heaters in the wire loops.

Claim 19. Apparatus according to Claim 13, wherein said wire loops form an acute angle at their bottom ends.

Claim 20. Apparatus according to Claim 14, wherein said vessel is provided with a heat exchange jacket.

Claim 21. Apparatus according to Claim 20, wherein said heat exchange jacket comprises an electrical heater.

Claim 22. Apparatus according to Claim 20, wherein said heat exchange jacket is adapted to accomodate the flow of a heat transfer medium therethrough.--

REMARKS

This Preliminary Amendment is being filed to conform the claims to proper form for prosecution before the U.S. Patent and Trademark Office.

For the record, Applicants emphasize that although the claims were amended, and, therefore, might be argued to have been amended for a reason substantially related to patentability, a fair reading of the amended claims will reveal that the departures from the previous claims were for clarification purposes only, and that Applicants did not narrow the claims in any material respect. Therefore, Applicants submit that the amended claims are entitled to the full range of equivalents.

Favorable action is respectfully solicited.

CONDITIONAL PETITION FOR EXTENSION OF TIME

If any extension of time for this amendment is required, applicant requests that this be considered a petition therefore. Please charge the required petition fee to Deposit Account No. 14-1263.

ADDITIONAL FEE

Please charge any insufficiency of fee or credit any excess to Deposit Account No. 14-1263.

Respectfully submitted,

NORRIS, McLAUGHLIN & MARCUS, P.A.

By _____
William C. Gerstenzang
Reg. No. 27,552

220 East 42nd Street - 30th Floor
New York, New York 10017
(212) 808-0700

I hereby certify that this paper is being deposited with the United States Postal Service as Express Mail, Label No. EV015940614US to: BOX PATENT APPLICATION, U.S. Patent and Trademark Office, P.O. Box 2327, Arlington, VA 22202 on November 27, 2001.

Norris McLaughlin & Marcus, P.A.

By: _____

Date: 11/27/01

MARKED-UP COPY OF AMENDED PARAGRAPHS,
SHOWING CHANGES RELATIVE TO PREVIOUS VERSION

Claim 1 (amended). Apparatus for carrying out mass transfer processes with high-viscosity liquids, [particularly for boiling down and/or devolatilizing polymer melts,] comprising at least one vertically disposed vessel [(1)] having a [feeder means (4)] feed distributor for the liquid to be treated, an outlet [(7)] for volatile components and an outlet [(6)] for the treated liquid, the [feeder means (4) being equipped with a distributor element (3)] the feed distributor having a multiplicity of orifices [(8, 10)] for subdividing the high-viscosity liquid to be treated into a multiplicity of individual streams, [characterized in that] wherein essentially vertically arranged wire loops [(2)] are disposed in the vicinity of the orifices [(8, 10)], along which wire loops the high-viscosity liquid runs off under the action of gravity.

Claim 2 (amended). Apparatus according to Claim 1, [characterized in that] wherein the feed distributor [element] is a perforated plate.

Claim 3 (amended). Apparatus according to Claim 1 [or 2, characterized in that] , wherein the feed distributor element [(3) includes] comprises at least one horizontally arranged tube [(3)] which has orifices [(8)] pointing downwards [and/or], upwards or both.

Claim 4 (amended). Apparatus according to Claim 1, wherein [any one of Claims 1 to 3, characterized in that] the wire loops [(2)] in the vicinity of the orifices [(8, 10)] in the feed distributor [element (3, 9)] are disposed detachably.

Claim 5 (amended). Apparatus according to [Claims 3 to 4, characterized in that] Claim 3, wherein [the distributor element comprises at least one horizontally arranged tube (3) which has] said orfices are slotted orifices [(8)] pointing upwards.

Claim 6 (amended). Apparatus according to Claim 5, [characterized in that the distributor element comprises at least one horizontally arranged tube (3) which has slotted orifices (8) pointing upwards, into which] wherein the wire loops [(2)] are clipped into said orifices.

Claim 7 (amended). Apparatus according to [any one of Claims 1 to 6, characterized in that] Claim 1, wherein two, three or more of the wire loops [(2)] at a time are combined into a basket-like lattice [(14)] or wire mesh.

Claim 8 (amended). Apparatus according to Claim 7, [characterized in that] wherein two or more adjacent lattices [(14)] or wire meshes are linked to one another.

Claim 9 (amended). Apparatus according to [any one of Claims 1 to 8, characterized in that] Claim 1, wherein the wire loops [(2)] are [additionally] attached to the vessel bottom.

Claim 10 (amended). Apparatus according to [any one of Claims 1 to 9, characterized in that] Claim 1, wherein the wire loops [can be heated, particularly by means of electric resistance heaters means] comprising heating for the wire loops.

Claim 11 (amended). Apparatus according to [any one of Claims 1 to 10, characterized in that the distributor elements (3, 9) are formed by] Claim 1, wherein the feed distributor is formed of heat exchange tubes [(12)] which are vertically arranged in the vessel [(1)], debauch into the vessel [(1)] and have orifices [(8)], the wire loops [(2)] being attached to the bottom ends of said heat exchange tubes.

Claim 12 (amended). Apparatus according to [any one of Claims 1 to 11, characterized in that] Claim 1, wherein the area enclosed by [a] each individual wire loop is from 0.5 cm^2 to 2500 cm^2.

Claim 13 (amended). Apparatus according to [any one of Claims 1 to 12, characterized in that] Claim 1, wherein the wire loops [(2)] taper in the direction of flow of the liquid [and, in particular, terminate in an acute angle at their bottom ends].

Claim 14 (amended). Apparatus according to [any one of Claims 1 to 13, characterized in that] Claim 1, wherein the vessel [(1)] is designed to be heatable, [and/or] coolable or both [, and in particular is provided with a jacket for an electric heater or for a heat transfer medium to be passed through].

Claim 15 (amended). Apparatus according to [any one of Claims 1 to 14, characterized in that] Claim 1, wherein the top ends of individual [the] wire loops [(2)] are disposed at different orifices [(8, 10), particularly at distant orifices not disposed directly next to one another].

Claim 16 (amended). Apparatus according to [any one of Claims 1 to 15, characterized in that] Claim 1,wherein one or more wire lattices [(15)] essentially arranged horizontally above one another are additionally provided below the orifices [(8, 10)].

Claim 17 (amended). [Use of the apparatus according to any one of Claims 1 to 16] A method for boiling down and devolatilizing high-viscosity liquids [, particularly for boiling down and/or devolatilizing polymer solutions or polymer melts, equally preferably polycarbonate solutions or polycarbonate melts and the use] and for carrying out chemical reactions between [the] liquid layer [in the wire loop] and [the] a surrounding gas space which contains a reactive gas component, and for condensation reactions which comprises carrying out said boiling down and devolatizing, or said reactions in an apparatus according to Claim 1.

Attorney Docket No.: Bayer 10,227-WCG
: LEA 32751-US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s)	:	Dr. Klemens KOHLGRÜBER and Dr. Frank WEYRICH
For	:	APPARATUS FOR CARRYING OUT MASS TRANSFER PROCESS
Serial No.	:	To Be Assigned
Filed	:	Herewith
Art Unit	:	To Be Assigned
Examiner	:	To Be Assigned

November 27, 2001

BOX PATENT APPLICATION
The Assistant Commissioner
for Patents
Washington, D.C. 20231

Sir:

LETTER TO THE OFFICIAL DRAFTSMAN

Submitted herewith for entry and approval are eight (8) sheets of formal drawings (FIGS. 1 - 10b) in the above-referenced application.

Respectfully submitted,
NORRIS, McLAUGHLIN & MARCUS, P.A.

By _____
William C. Gerstenzang
Reg. No. 27,552

WCG:gb
Enc. - Formal Drawings (8 sheets)

220 East 42nd Street
30th Floor
New York, New York 10017
Phone: (212) 808-0700
Fax: (212) 808-0844

I hereby certify that this correspondence is being deposited with the United States Postal Services as Express Mail Label No. EV 015940614US in an envelope addressed to BOX PATENT APPLICATION, U.S. Patent and Trademark Office, P.O. Box 2327, Arlington, VA 22202 on November 27, 2001.

NORRIS, McLAUGHLIN & MARCUS, P.A.

By _____

Date 11/27/01